

## **UNIT – IV CLINICAL ENGINEERING PROGRAM INDICATOR**

**Clinical engineering: program services, Program database – Clinical Engineering Program management, Program indicator, Managing clinical engineering performance using program indicators – Indicator management process.**

### **1.Clinical Engineering Program Services**

Clinical engineering programs have evolved from equipment to include equipment management and technology management

- Equipment maintenance- repairs, periodic inspections, and modifications
- Equipment management - installation, incoming inspections and acceptance testing, hazard notification, user-error identification, incident investigation, contract management, training, and database management
- Technology management - assessment of new technology, pre-purchase equipment evaluations, and specification development

All clinical engineering departments do not provide the same type or level of services. Therefore it is important to define the clinical engineering services that are specific to a particular department.

A broad range of clinical engineering services are listed below:

**Corrective Maintenance:** Any services that involve medical equipment repair would be included in this category. Specific services include repairs performed

- by in-house personnel or vendors,
- repairs completed during the warranty period,
- repairs completed as a result of a hazard notification,
- repairs resulting from user error,
- and repairs performed under a service contract

**Inspections and Periodic Maintenance (IPM):** This includes various types of services like

- electrical safety inspections,
- operations checks,
- scheduled IPMs performed by staff or vendors,
- unscheduled IPMs performed by staff or vendors.

Some of the IPM services may pass inspection, some may fail the inspection, and some inspections may be cancelled.

**Education:** Various educational services are provided by clinical engineering departments like

- Training users on procedures and proper equipment use.

- clinical engineering staff training must be provided and documented

**Equipment Management:** Various services related to managing the equipment are

- developing and managing the database,
- pre-purchase equipment evaluations,
- specification development,
- incoming inspections,
- acceptance testing,
- removing equipment from service

**Contract Management:** Contracts with various vendors are managed by the clinical engineering department. Services here include

- developing the specific contract specifications,
- coordinating services with the vendor,
- reviewing vendor services provided,
- documenting services into your equipment management program

**Risk Management:** This category includes

- assessing equipment for equipment management program,
- identification of user errors,
- hazard-notification review,
- incident investigation,
- Safe Medical Device Act-Medical Device Tracking,
- Safe Medical Device Act-Device Incident Reporting (David and Judd, 1993; Wang and Levenson, 2000).

**Technology Assessment:** Different clinical engineering services provided here are

- problem investigation,
- equipment modification,
- instrumentation design,
- planning for implementation of new technology,
- planning for the replacement of existing technology